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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,478	12/27/2001	Chien Cheng Chen		8432

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EXAMINER

MOONEY, MICHAEL P

ART UNIT PAPER NUMBER

2883

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/033,478

Applicant(s)

CHEN ET AL.

Examiner

Michael P. Mooney

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-21 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai (5642446).**

Tsai teaches an optical switch for switching optical signals between a plurality of input and output optical fibers (10, 14, 12, 16), including: a holder 526; a first stopper 547; a second stopper 548; a driver (see magnet assembly in, e.g., fig. 19); at least one input collimator 18 aligning with the input fibers and collimating the input light; at least one output collimator 18 aligning with the output fibers and collimating the output light; and a switching element (e.g., 532 and magnets) assembled with the holder and having an optical component (522, 524, 526) displaceable between a first and a second positions (col. 16 lines 5-55) and a rotating mechanism which rotationally moves the

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optical component between the first stopper 547 (corresponding to the first position) and the second stopper 548 (corresponding to the second position); whereby, when the switching element is in the first position (figs. 19, 20, 23), the optical component is in optical paths from the input collimators to the output collimators, and light beams from the input fibers transmit sequentially through the input collimators, the optical component, the output collimators, and then to the output fibers; and when the switching element is in the second position (fig. 24), the optical component is out of the optical paths, and light beams from the input fibers transmit through the input collimators, the output collimators, and to the output fibers, without being bent or deflected by the optical component to transmit to different output fibers. (figs. 20-24; fig. 17; col. 5 lines 50-60; col. 18 lines 18-50).

Thus claim 1 is rejected.

By the above reasons and references each an every element of claims 2-3, 7-8 are also rejected.

Tsai teaches wherein the holder has a guiding hole to fix the first stopper. (figs. 25-26). Thus claim 6 is rejected.

Tsai teaches wherein the input fibers and the output fibers are accommodated in respective boots for being prevented from flexing excessively. (col. 2 lines 25-30; col. 5 lines 50-58). Furthermore, it is notoriously well known (NWK) to fix fibers for being prevented from flexing excessively in such applications. Thus claim 9 is rejected.

Tsai teaches wherein the holder has two collimator holders at a forward side to hold the input collimators and the output collimators in alignment with each other. (I.e., See figs. 19-20 and col. 17 lines 39-53). Thus claim 10 is rejected.

Tsai teaches wherein the holder further has two shaft supporters at a rear side to support the axle shaft. (figs. 18-21; fig. 17; col. 5 lines 50-60; col. 18 lines 18-50). Thus claim 11 is rejected.

***Allowable Subject Matter***

Claims 12-21 are allowed.

Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art, either alone or in combination, does not disclose or render obvious the optical switch as claimed in claim 3, wherein the rotating mechanism further comprises a cantilevered spring with a front end abutting against the axle shaft and elastically pressing the axle shaft against the holder to hold the axle shaft and the bracket in place and a rear end mounted on the holder in combination with the rest of claim 4.

It is noted that the claim 4 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious the optical switch as claimed in claim 1, further comprising a housing which has a base

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accommodating the switching element, the driver and the holder therein, and a top cover fixing the second stopper in combination with the rest of claim 5.

It is noted that the claim 5 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious an axle shaft rotationally engaged with the bracket, which axle shaft engages with the holder to fix the bracket in rotational engagement with the holder; and a cantilevered spring abutting against the axle shaft, which elastically presses the axle shaft against the holder to hold the axle shaft and the bracket in place; whereby, when the switching element is in the first position, the optical component is positioned in the optical paths between the input and the output fibers, and light beams from the input fibers transmits sequentially through the input collimators, the optical component, the output collimators, and then to the output fibers, respectively, having been bent or deflected by the optical component to transmit through a different output fiber than would be the case if the light beam had not transmitted through the optical component; and when the switching element is in the second position, the optical component is positioned out of the optical paths, and light beams from the input fibers directly transmit to the output fibers without being bent or deflected by the optical component to transmit to different output fibers in combination with the rest of claim 12.

It is noted that the claim 12 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious

an optical switch comprising: two pairs of collimators positioned by two sides of a moveable prism; said prism held by an L-shaped holder; said holder controlled by two shafts wherein one is translated while the other is moved along a slanted groove so as to have said holder moved in a tilting manner for making said prism up and down moveable between said two pairs of collimators in combination with the rest of claim 21.

It is noted that the claim 21 is allowable because the unique combination of each and every specific element stated in the claim.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Response to Arguments***

Applicant's arguments filed 6/3/04 have been fully considered but they are not persuasive. Tsai figures 18-24 shows the rotational movement of reflector

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assembly/optical component 520 comprising a first mirror 522, a second mirror 524 and a base/holder 526 about the axis at 528. It is noted that reflector base/holder 526 has an axial portion 530 that is connected to a support 528 and rotation stop 532 (col. 16 lines 20-25). Thus, the reflector assembly/optical component 520 does indeed rotate between the two stop walls or stoppers 547, 548 (fig. 18; fig. 19; figs. 20-21) and therefore is appropriate for rejecting the claims as is done in the above rejection. It is noted that the above rejection is repeated from the non-final rejection of the previous Office action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Mooney whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

  
Michael P. Mooney  
Examiner  
Art Unit 2883

  
Frank G. Font  
Supervisory Patent Examiner  
Art Unit 2883

FGF/mpm  
11/22/04